

REMARKS

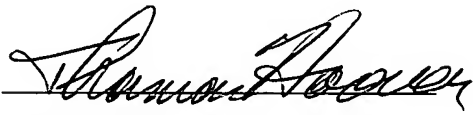

Information Disclosure Statement

An Information Disclosure Statement (IDS) is being filed concurrently herewith. Entry of the IDS is respectfully requested.

CONCLUSION

In view of the amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone call would expedite the prosecution of this case, the Examiner is invited to call the undersigned at (508) 416-2475.

Respectfully submitted,  
BOWDITCH & DEWEY, LLP

By   
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Amendments to the Drawings:

Figs. 1A, 1C, 6, 9, 10, 11A, 11B, 12, 13A, 13B, 15, 17, 18 and 19 are being amended to correct typographical errors and to make changes necessary for formal drawings. Amendments to Figs. 1A, 1C, 6, 9, 10, 11A, 11B, 12, 13A, 13B, 15, 17, 18 and 19 are indicated on the attached Annotated Sheets of drawings.

The attached Replacement Sheets of drawings includes changes to Figs. 1A, 1C, 6, 9, 10, 11A, 11B, 12, 13A, 13B, 15, 17, 18 and 19 and replaces original Figs. 1A, 1C, 6, 9, 10, 11A, 11B, 12, 13A, 13B, 15, 17, 18 and 19. Fig. 14 included on the Replacement Sheet is not currently being amended.

Comments on the Drawings:

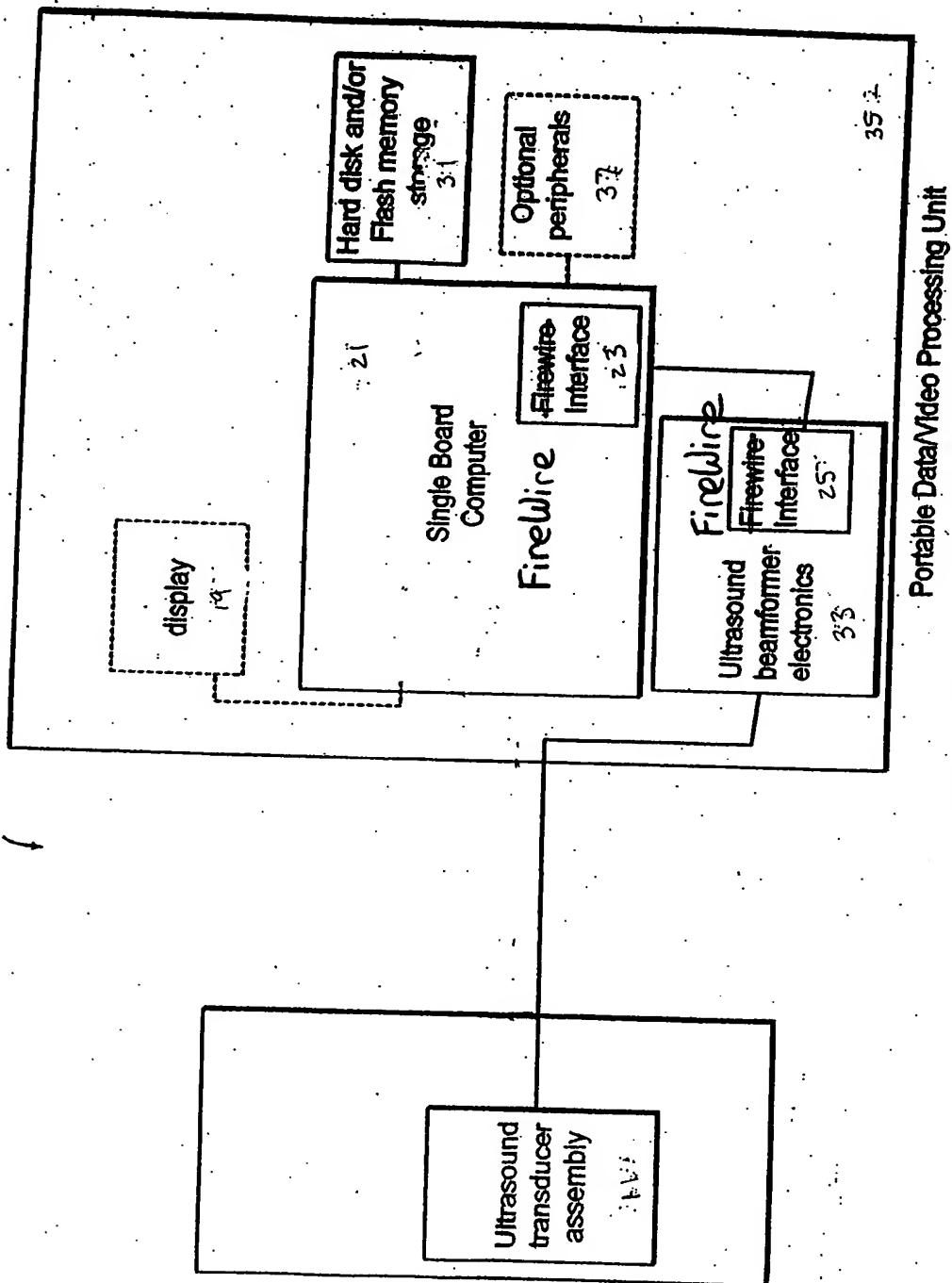
Transmitted herewith are Replacement Sheets of drawings (Figs. 1B, 2-5, 7-8, 14, 16 and 20) for filing in the subject application.

Drawings are being presented in a formal format as replacement drawings. No new subject matter is being introduced.

Acceptance of the replacement drawings is respectfully requested.



Docket No.: 301496.3003-100  
Inventors: Xingbai He *et al.*  
Title: Wall Motion Analyzer  
ANNOTATED SHEET SHOWING CHANGE



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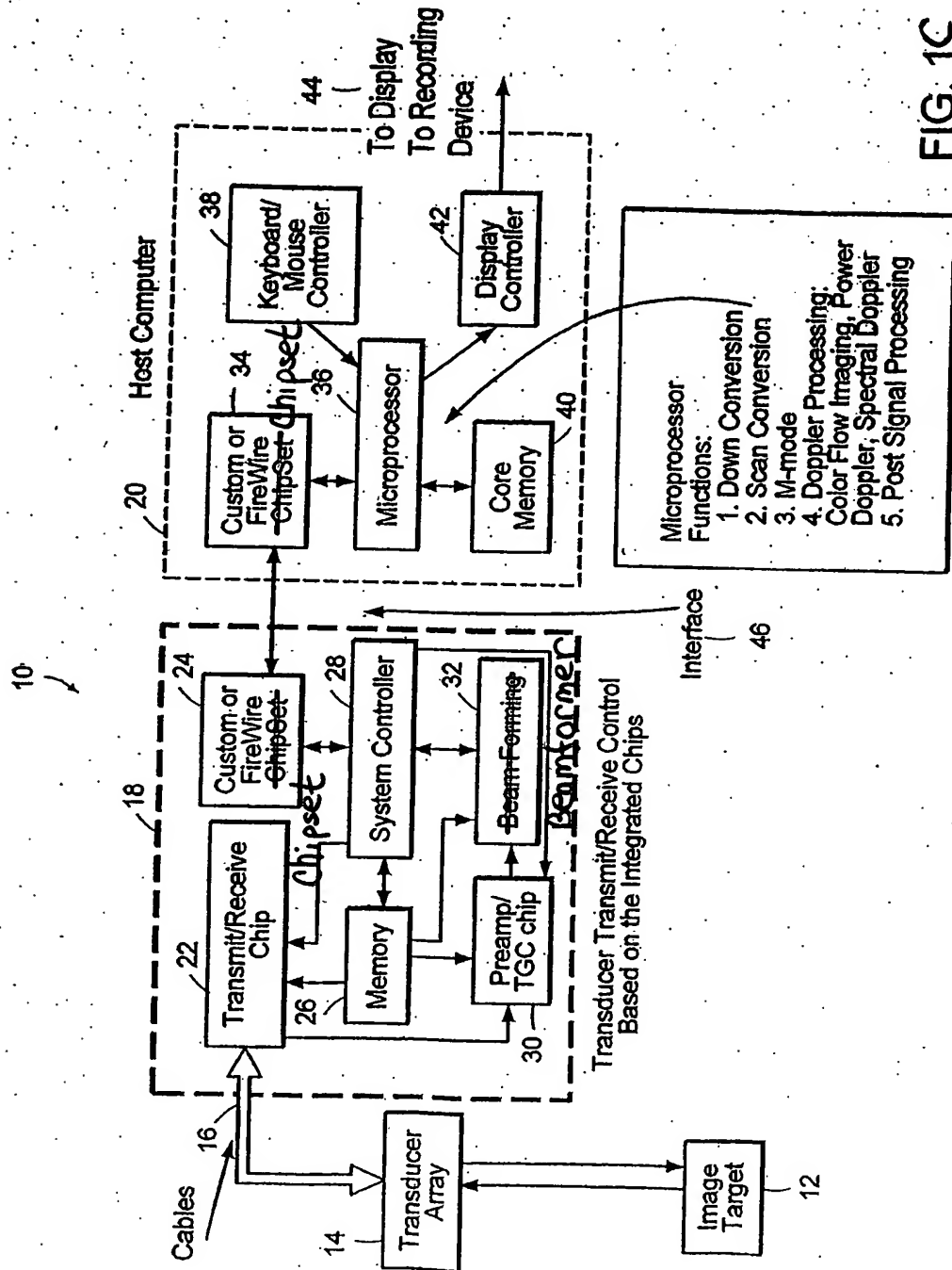


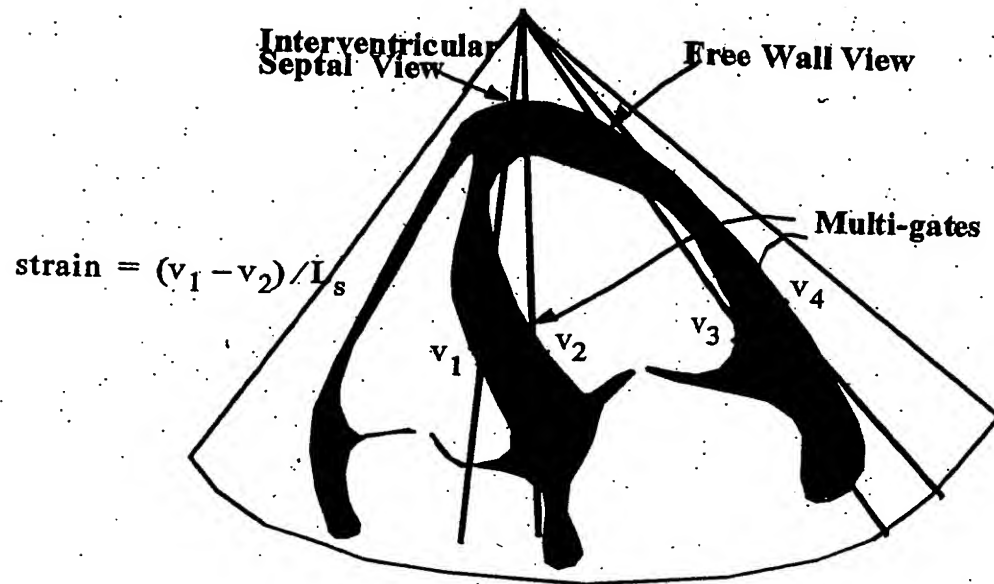
FIG. 1C

Docket No.: 301496.3003-100

Inventors: Xingbai He *et al.*

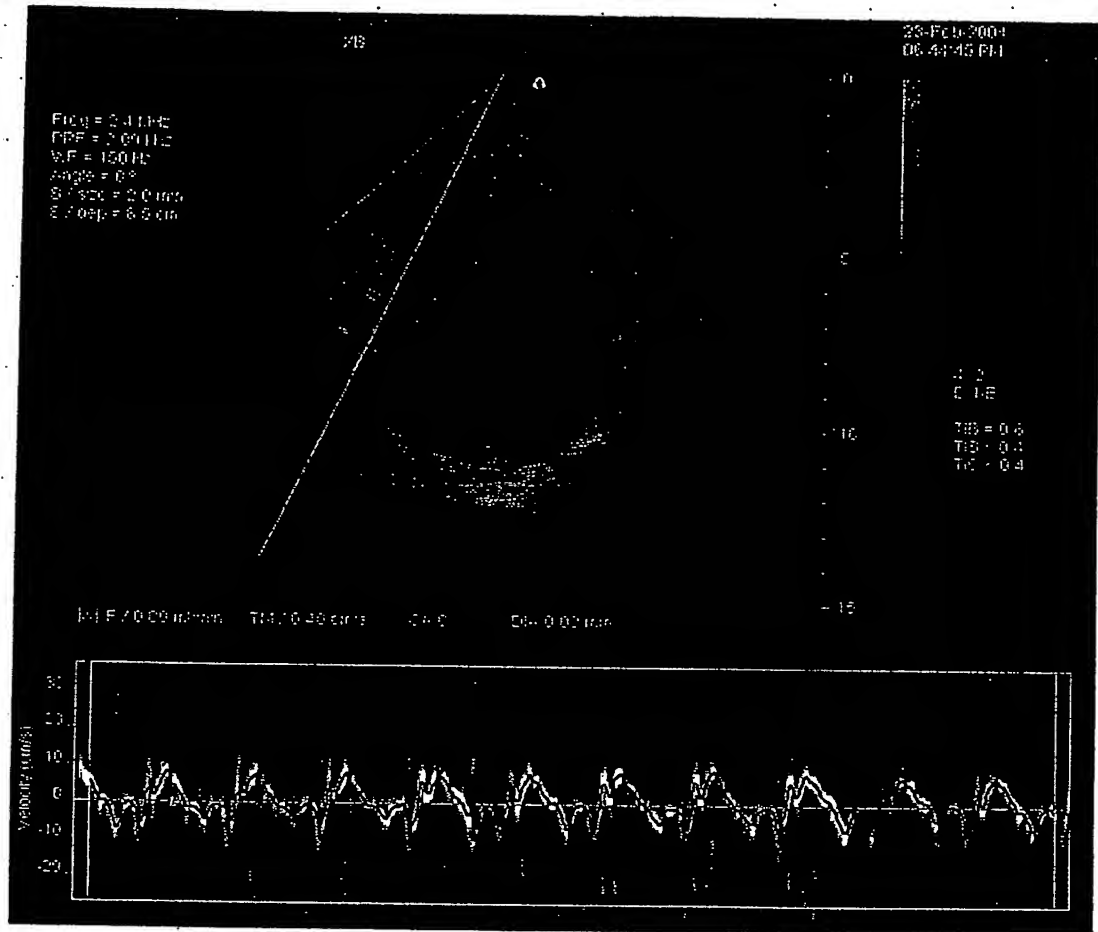
Title: Wall Motion Analyzer

**ANNOTATED SHEET SHOWING CHANGE**



**Measurement of Strain Rate by using Multi-direction PW Spectral  
Doppler lines**

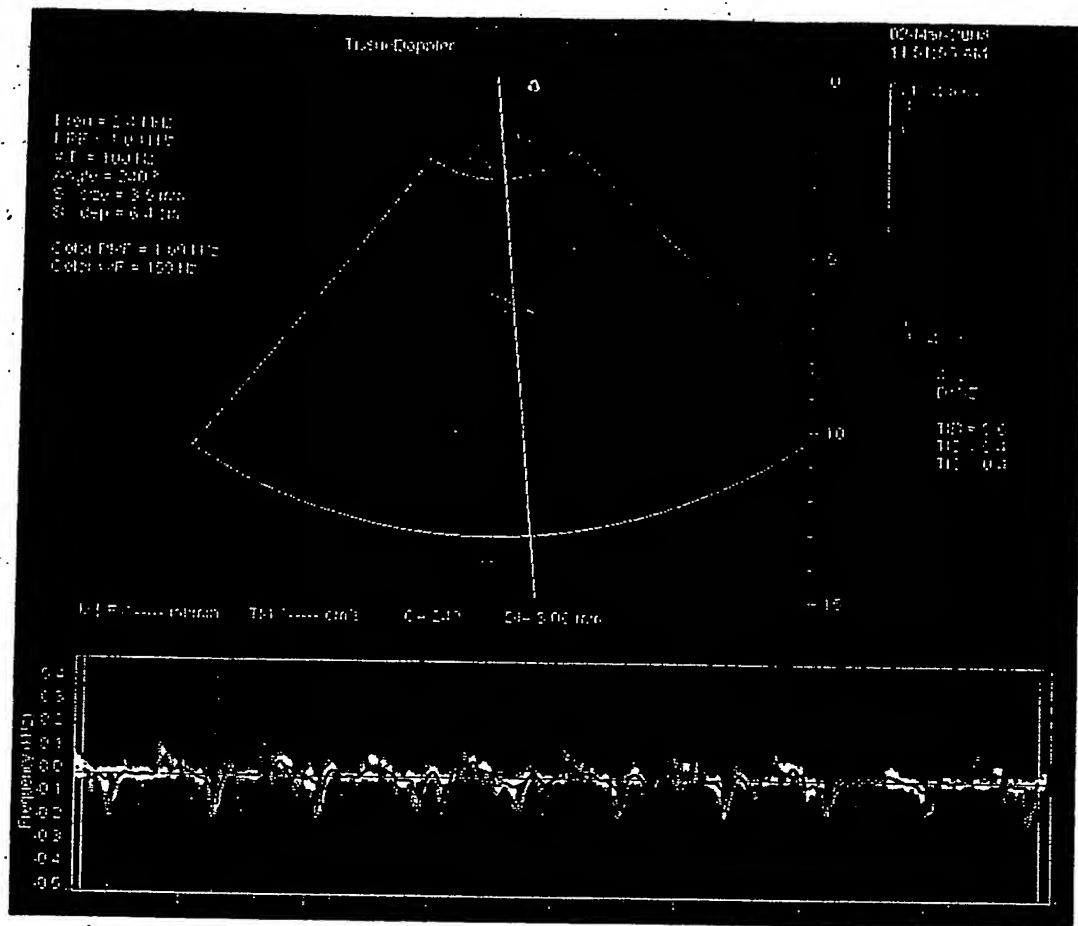
Fig 6



~~Pulsed Wave Tissue Doppler image~~

Fig. 9

**ANNOTATED SHEET SHOWING CHANGE**



## ~~Triplex Tissue Doppler~~

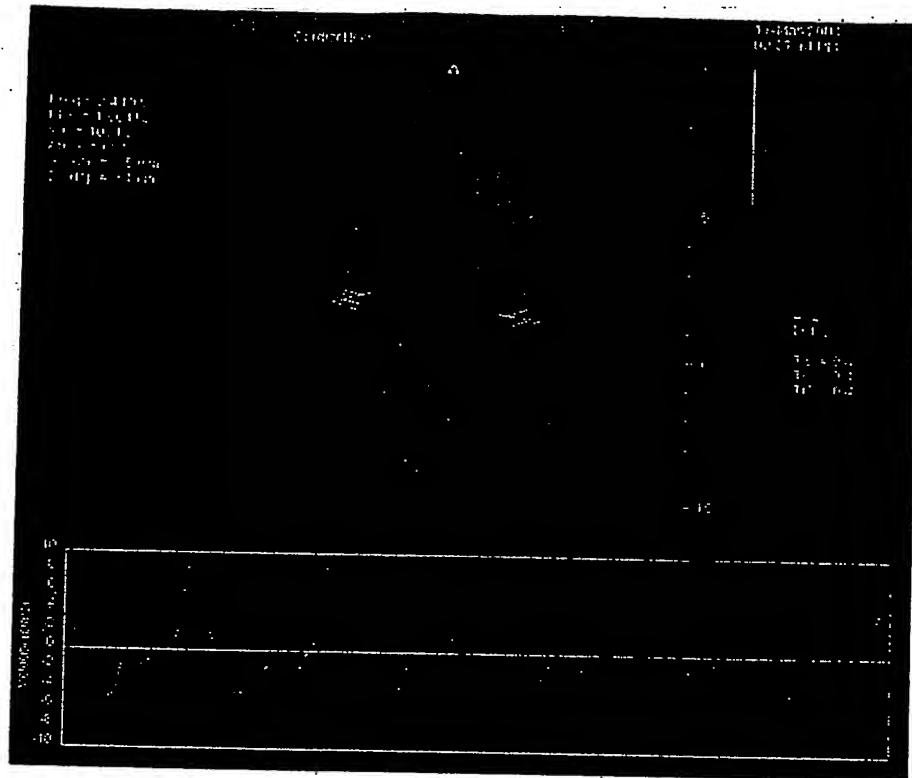
Fig. 10

Docket No.: 301496.3003-100

Inventors: Xingbai He *et al.*

Title: Wall Motion Analyzer

**ANNOTATED SHEET SHOWING CHANGE**



~~Duplex with two spectral lines one each on septal and lateral free walls,  
the graphs displayed are mean velocity.~~

Fig. 11A



**Docket No.: 301496.3003-100**

**Inventors:** Xingbai He *et al.*

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**ANNOTATED SHEET SHOWING CHANGE**

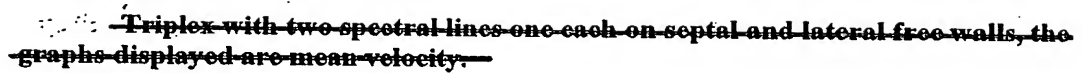


Fig. 11B

~~Apical Four Chamber Duplex or Triplex Tissue Doppler Imaging~~

- ~~• At least two PW Spectral Doppler Views,~~
- ~~• At least one each at Interventricular Septal wall and Free Wall~~
- ~~• Multi-gate structure along each PW Spectral view~~
- ~~• Regional wall movement can be displaced at each range-gate position~~
- ~~• Global movement/displacement of each wall can be obtained by averaging~~
- ~~• over those range-gates~~

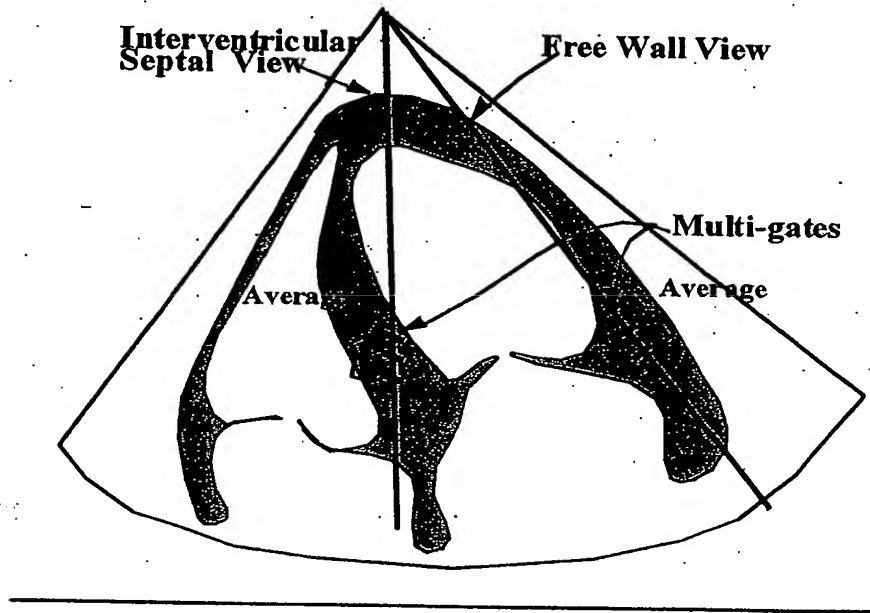


Fig 12

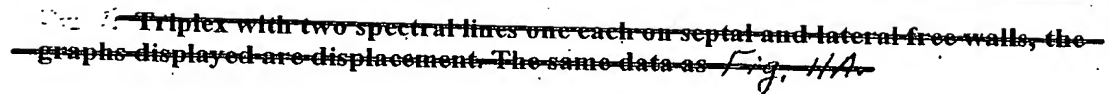
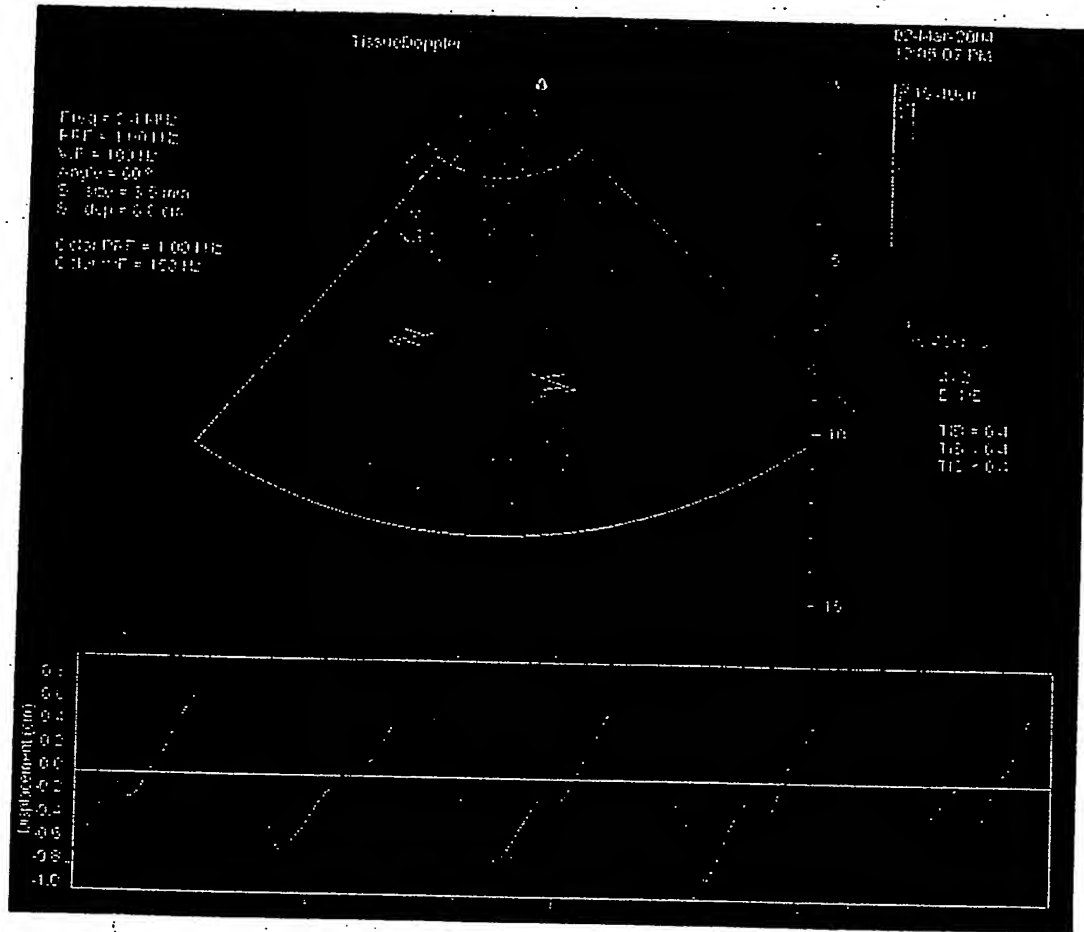


Fig. 13A



Another example of Displacement detection

Fig. 13B

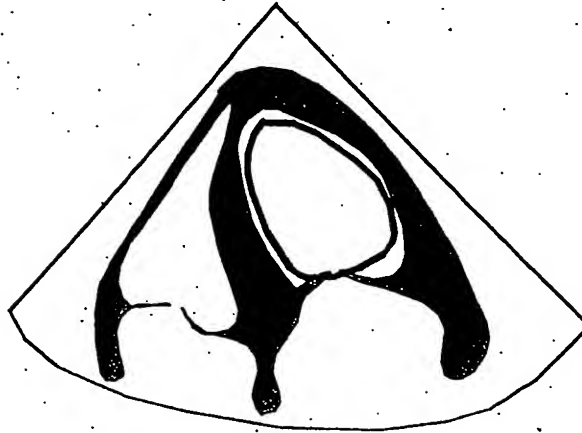
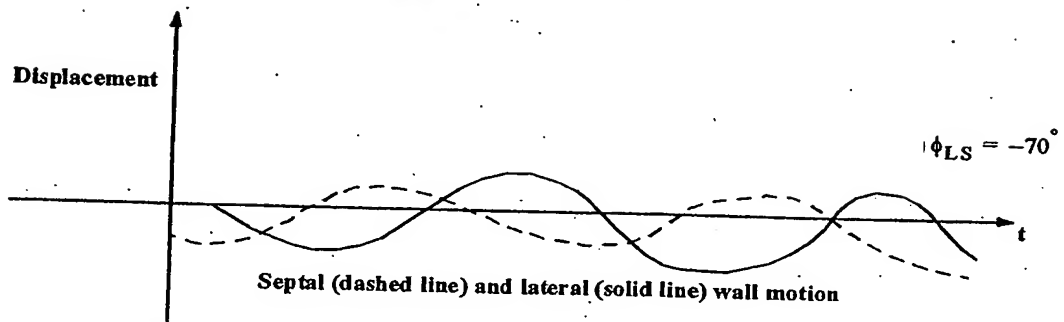
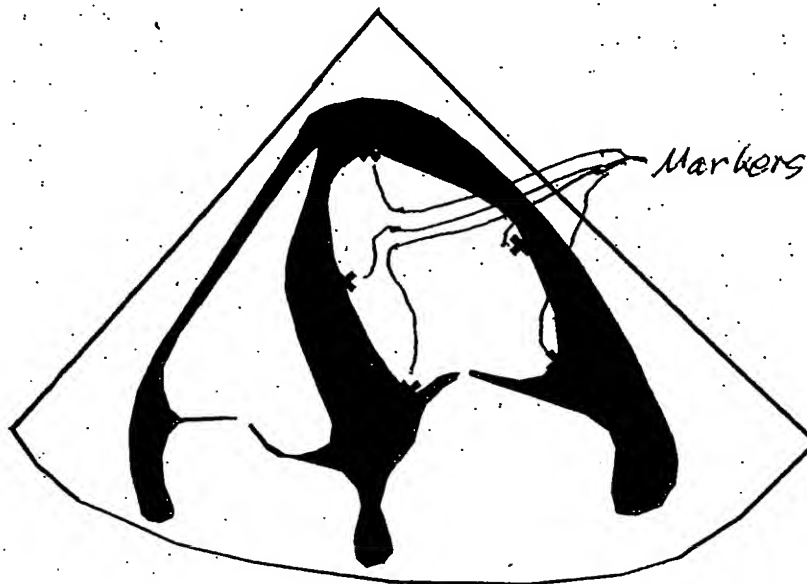


Fig. 14



~~Automatic Border detection allows continuously detect and track the  
interventricular Septal Wall and Lateral Free Wall movement.~~

Fig. 15

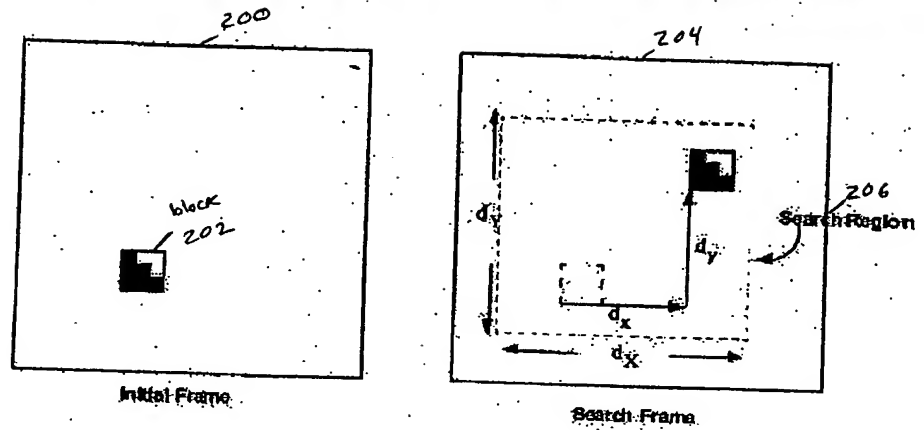


~~1. Manually placed 5 anchor point on a 4 Chamber Apical view B-mode image~~

Fig. 17

**~~Motion Compensated Block Matching Search Algorithm~~**

- ~~• considering a block in an initial frame and~~
- ~~• searching for the displacement which produces the best match among possible search region in an adjacent frame.~~



~~in this example, the search region is  $d_x/2 \leq x \leq d_x/2$  and  $d_y/2 \leq y \leq d_y/2$~~   
~~and the motion estimated displacement vector is  $(d_x, d_y)$~~

Fig 18

~~**Block Intensity Guided Border Detection  
Technique**~~

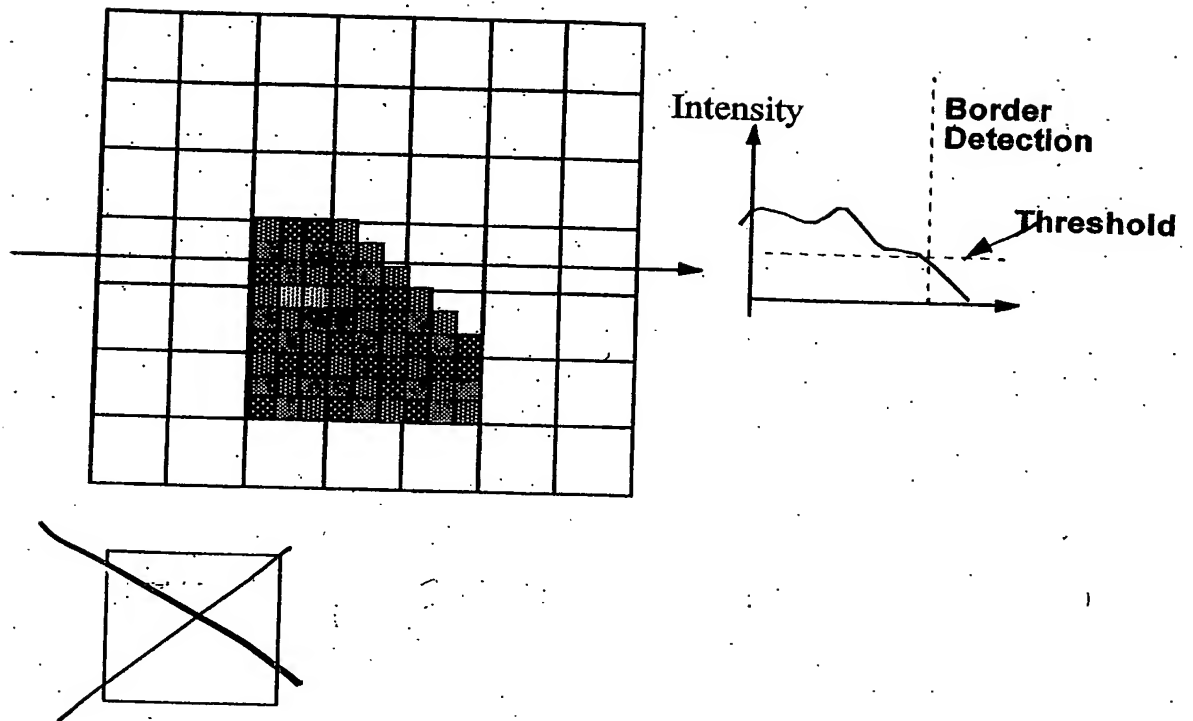


Fig. 19



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